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**XXIV. HRVATSKI SKUP
KEMIČARA I KEMIJSKIH INŽENJERA**

***XXIV CROATIAN MEETING
OF CHEMISTS AND CHEMICAL ENGINEERS***

**Mini-simpozij Vladimir Prelog
*Mini-symposium Vladimir Prelog***

**Knjiga sažetaka
*Book of Abstracts***

**Fakultet kemijskog inženjerstva i tehnologije, Sveučilište u Zagrebu
Faculty of Chemical Engineering and Technology, University of Zagreb
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*April 21–24, 2015***

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XXIV CROATIAN MEETING OF CHEMISTS AND CHEMICAL ENGINEERS

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POSTERSKA PRIOPĆENJA

POSTER PRESENTATIONS

A. KEMIJA CHEMISTRY

- P 1:** A. Miličević, N. Raos: 93
MODELIRANJE KONSTANTI STABILNOSTI BAKROVIH(II)
KOMPLEKSA S TRIPEPTIDIMA GLICINA I GLUTAMINSKE KISELINE
*MODELLING THE STABILITY CONSTANTS OF COPPER(II)
COMPLEXES WITH TRIPEPTIDES CONTAINING GLYCINE AND
GLUTAMIC ACID*
- P 2:** M. Hranjec, N. Perin, E. Horak, Z. Srdović, S. Plavljani: 94
NOVI BENZIMIDAZO[1,2-*a*]KINOLINI KAO pH SENZORI I
KEMOSENZORI
*NOVEL BENZIMIDAZO[1,2-*a*]QUINOLINES AS pH SENSORS AND
CHEMOSENSORS*
- P 3:** M. Aleksić, I. Sović, G. Karminski-Zamola, J. Bunjevac, M. Šuša, 95
V. Rep, M. Hranjec:
NOVI BIOLOŠKI AKTIVNI AMIDNI DERIVATI BENZIMIDAZOLA
I BENZOTIAZOLA
*NOVEL BIOLOGICALLY ACTIVE BENZIMIDAZOLE AND
BENZOTHIAZOLE AMIDES*
- P 4:** M. Merkaš, A. Lučić, N. Smrečki, B.-M. Kukovec, Z. Popović: 96
KOMPLEKSI BAKRA(II) I NIKLA(II) S DERIVATIMA
N-BENZILIMINODIACETAMIDA
*COPPER(II) AND NICKEL(II) COMPLEXES WITH THE
N-BENZYLIMINODIACETAMIDE DERIVATIVES*
- P 5:** T. Benković, D. Kontrec, V. Tomišić, N. Galić: 97
PROTONACIJSKE KONSTANTE AROMATSKIH HIDRAZONA
PROTONATION CONSTANTS OF AROMATIC HYDRAZONES
- P 6:** I. Pavličić, R. Biba, N. Smrečki, I. Pulić, D. Matković-Čalogović, 98
Z. Popović:
KOMPLEKSI Co(II), Ni(II) I Cu(II) S
N-CIKLOHEKSILIMINODIACETAMIDOM
*Co(II), Ni(II) AND Cu(II) COMPLEXES WITH
N-CYCLOHEXYLIMINODIACETAMIDE*

- P 28:** L. Kukoč – Modun, M. Biočić, Nj. Radić: 120
 RAZVOJ KINETIČKE SPEKTROFOTOMETRIJSKE METODE ZA
 ODREĐIVANJE CISTEINA, PENICILAMINA, TIOPRONINA I
 GLUTATIONA, KAO ČISTE TVARI I U FARMACEUTSKIM
 PRIPRAVCIMA
*DEVELOPMENT OF KINETIC SPECTROPHOTOMETRIC METHOD FOR
 DETERMINATION OF CYSTEINE, PENICILLAMINE, TIOPRONIN AND
 GLUTATHIONE IN PURE FORM AND IN PHARMACEUTICAL
 FORMULATIONS*
- P 29:** L. Racané, M. Cetina, L. Ptiček, F. Topić, K. Rissanen,
 V. Tralić-Kulenović: 121
 SINTEZA I RENDGENSKA STRUKTURNA ANALIZA
 AMIDINO-SUPSTITUIRANIH 2-AMINOFENOLA
*SYNTHESIS AND X-RAY STRUCTURAL ANALYSIS OF
 AMIDINO-SUBSTITUTED 2-AMINOPHENOLS*
- P 30:** M. Medvidović-Kosanović, A. Blagus Garin, F. Perdih,
 A. Šter, B. Marković: 122
 ELEKTROKEMIJSKA KARAKTERIZACIJA HIDRAZIDA
 DIPIKOLINSKE KISELINE
*ELECTROCHEMICAL CHARACTERISATION OF
 DIPICOLINIC ACID HYDRAZIDES*
- P 31:** S. Opačak, M. Šekutor, K. Mlinarić-Majerski: 123
 SINTEZA KARBAZOLNIH GVANIDINA, NOVIH ANIONIHKIH
 RECEPTORA
SYNTHESIS OF CARBAZOLE GUANIDINES, NOVEL ANION RECEPTORS
- P 32:** M. Glavaš, M. Alešković, K. Mlinarić-Majerski: 124
 SINTEZA NOVIH ADAMANTANSKIH PIROLKARBOKSIAMIDA
SYNTHESIS OF NOVEL ADAMANTANE PYRROLECARBOXYAMIDES
- P 33:** I. Šagud, Ž. Marinić, I. Škorić: 125
 SINTEZA I FOTOKEMIJSKE TRANSFORMACIJE
 2- I 3-[4-(2-VINILFENIL)BUTA-1,3-DIENIL]TIOFENA
*SYNTHESIS AND PHOTOCHEMICAL TRANSFORMATIONS OF
 2- AND 3-[4-(2-VINYLPHENYL)BUTA-1,3-DIENYL]THIOPHENE*
- P 34:** I. Šagud, Ž. Marinić, M. Šindler-Kulyk: 126
 FOTOKEMIJA 2/4/5-(2-VINILSTIRIL)OKSAZOLA
PHOTOCHEMISTRY OF 2/4/5-(2-VINYLSYRYL)OXAZOLES

ELEKTROKEMIJSKA KARAKTERIZACIJA HIDRAZIDA DIPIKOLINSKE KISELINE

ELECTROCHEMICAL CHARACTERISATION OF DIPICOLINIC ACID HYDRAZIDES

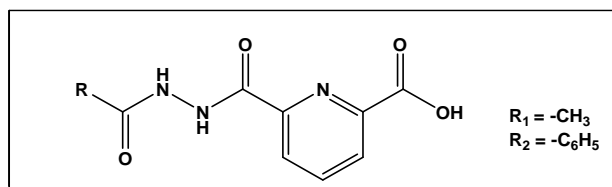
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Dipicolinic acid hydrazides were investigated for their multidentate chelating properties, because they possess a large number of potential donor atoms and for their use in medicine and agriculture [1,2]. Oxido-reduction properties of prepared derivates of dipicolinic acid, Scheme 1, were investigated by cyclic and differential pulse voltammetry. Measurements were conducted in a three electrode voltammetric cell in a non-aqueous media. Glassy carbon was used as a working electrode, platinum wire as counter electrode and non-aqueous Ag/Ag⁺ electrode as a reference electrode. Inert atmosphere was accomplished by system purging with high purity argon Ar 5 ($\phi_{Ar} = 99.999\%$), before each measurement. All compounds were characterized by the elemental analyses, MS, IR and ¹H-NMR spectroscopy.

Cyclic voltammograms revealed one oxidation and one reduction peak of benzohydrazide of dipicolinic acid ($E_{p,a} = 0.25$ V and $E_{p,k} = -0.48$ V), which both increased with increasing concentration ($c = 3.3 \cdot 10^{-5}$ mol dm⁻³... $5.0 \cdot 10^{-4}$ mol dm⁻³) and scan rate ($v = 25 \dots 300$ mV/s). The results have shown that the oxidation process is quasi reversible and diffusion controlled. Differential pulse voltammetry showed one oxidation peak $E_{p,a} = 0.16$ V, which also increased with increasing concentration of the investigated compound. The oxidation peak decreased with successive scans which confirmed adsorption oxidation products of studied hydrazide on the glassy carbon electrode surface.



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